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TECHNICAL NOTE

FOREST INSECTS AND DISEASES IN KEJIMKUJIK NATIONAL PARK IN 1989

Personnel with the Forest Insect and Disease Survey monitor national parks for forest insect and disease conditions during the spring, summer, and early fall months. Some pest problems of note found in Kejimkujik National Park in 1989 are described below.

Gypsy moths, in the larval stage, are hairy caterpillars which can grow up to 6 cm in length. They are distinguished by five pairs of blue and six pairs of red dots along their back. They were first found in Kejimkujik Park in 1983. Although no significant defoliation of trees in the Park can be conclusively attributed to the gypsy moth to date, they have great destructive potential as observed in parts of the northeastern United States in recent years. With the assistance of Park staff, 195 gypsy moth pheromone traps were monitored in 1989. An average of 9.4 moths were captured per trap, which is twice the 1988 level. A total of nine egg masses were found in the Park, six of which were found at one burlap band trap location about 1.5 km southwest of the Mersey River between George and Loon Lakes. Close attention will be paid to the gypsy moth in 1990 by FIDS rangers and Parks staff. Visitors are encouraged to report suspected gypsy moth to Park personnel.

Spruce budworm has not been a significant problem in the Park or indeed in Nova Scotia in 1988 or 1989. FIDS rangers will continue, however, to monitor for this dynamic defoliator in 1990.

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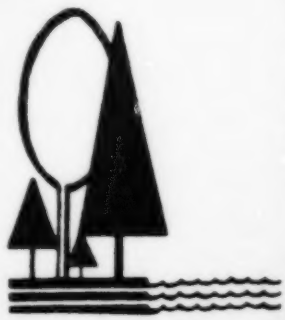

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Pine leaf adelgids hatch in early summer and begin feeding by inserting their mouth parts into the sap stream of new white pine shoots. These shoots will droop, turn red, and die if significant feeding occurs. The adelgid requires both spruce and white pine to complete its life cycle. On spruce, little damage occurs as the young adelgids produce only shoot galls. The winged form then returns to white pine. If populations of this adelgid are high, tree mortality can occur. Damaged shoots on white pine in the Park and elsewhere in Nova Scotia were not as widespread as in 1988. White pine shoot damage in the Park averaged 26% with a high of 40% affected at Jeremys Bay. New gall formations on red spruce ranged from 4-36%, with an average of 22% affected. The increase in the number of galls on red spruce and adult adelgids on white pine in 1989 indicates that more damage may be expected in the spring of 1990.

Oak leafroller and **oak leaf shredder** are small moths that, in the larval stage, can roll or shred their way through vast amounts of oak foliage when their numbers are plentiful. In 1989, there was a reduction in overall defoliation caused by these insects, with an average of 52% of leaves affected on 94% of the trees assessed at five locations in the Park. Oak stands generally, however, continue to worsen, as crown dieback and mortality become more progressive.

White pine weevil, as tiny, legless larvae, tunnel down the leader of pine and some spruce, which causes the top whorl to wither, turn red, and assume the shape of a shepherd's crook. Weeviled white pine trees were fairly common in the Park, ranging from 8-28% of the trees affected. Often these trees were young, open-growing white pine, 1-3m in height.

FIDS rangers also encountered other intriguing pests: **pine bark adelgid** caused light damage to 28% of white pine trees at two locations; **mite galls**, which resemble sugar piles, were found on 41% of the leaves on various hardwoods; **porcupines** damaged 20% of red spruce at Lucifee Brook; **larch casebearer** was widespread, damaging pockets of larch at light to severe damage levels; **birch casebearer** caused light to moderate damage at several locations; **birch leafminer** was observed at all damage levels on scattered trees; **fall webworm** nests were was prevalent throughout the Park; and **balsam twig aphid** damage averaged 9% of balsam fir shoots.

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April 1990

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